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Description of the Eggs of the Mole Salamander, *Ambystoma talpoideum* (Holbrook)

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There is little information published on the breeding and eggs of the mole salamander, *Ambystoma talpoideum*. Allen (1932, p. 3) found eggs and breeding individuals of this species on February 12, 1930, in Harrison County, Mississippi. Salamanders and eggs were found in a hole about three feet deep with two to three inches of water at the site of an abandoned sawmill. Carr (1940, p. 46) mentions collecting ten individuals near Gainesville, Florida, on February 14, 1933, and the subsequent laying of eggs that night in an aquarium. Bishop (1943, p. 153) gives observations made by Henry B. Chase in St. Tammany Parish, Louisiana, at air temperatures of 50° to 70° F in January. Chase found eggs in temporary pools with stands of sour gum, *Nyssa biflora* (= *N. sylvatica* var. *biflora*), and red gum, *Liquidambar styraciflua*, and also in ponds in pine woods. These eggs were in small, fragile masses containing 4 to 20 eggs and measuring 30 to 57 mm. in length and 24 to 34 mm. in width. In none of these observations has there been a description of the envelopes of the egg or a detailed description of the egg mass.

On the night of December 30, 1951, we found an aggregation of *A. talpoideum* in Dorchester County, South Carolina, 17 miles northwest of Charleston. The habitat was similar to that observed by Chase: a pond with *Nyssa sylvatica* and *Liquidambar styraciflua*, located in cut-over pine woods. The greatest depth of this pond was about one foot. A number of egg masses was noted and nine adult salamanders were collected. All were in the pond and in breeding condition. No spermatophores were seen. The only other salamanders found were several subadult individuals of the newt, *Desmognathus fuscescens*. Two species of frogs, *Pseudacris ornata* and *Hyla crucifer*, were calling in fair numbers.

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A second trip made to this pond on the night of December 31 yielded no more salamanders; however, in another similar pond 16 miles northwest of Charleston, two more adults and more eggs were found. Here also no other species of salamander was seen with the exception of the newt. There is little doubt that the eggs found in both ponds are those of *A. talpoideum*. Unfortunately, no temperature readings were taken in the field; however, temperatures at the Charleston weather station over December 29, 30, and 31 ranged from 34° to 72° F.

The description of the eggs follows the terminology of Bishop (1941, p. 16). Counts and measurements are based on seven egg masses.

Description. Eggs deposited in small, compact masses attached to small sticks and grass stems in the water (Figure 1, right); length of mass 15 to 58 mm. (mean 30 mm.); width of mass 12 to 25 mm. (mean 20.4 mm.); number of eggs per mass 10 to 41 (mean 20.6); a "common external envelope,"

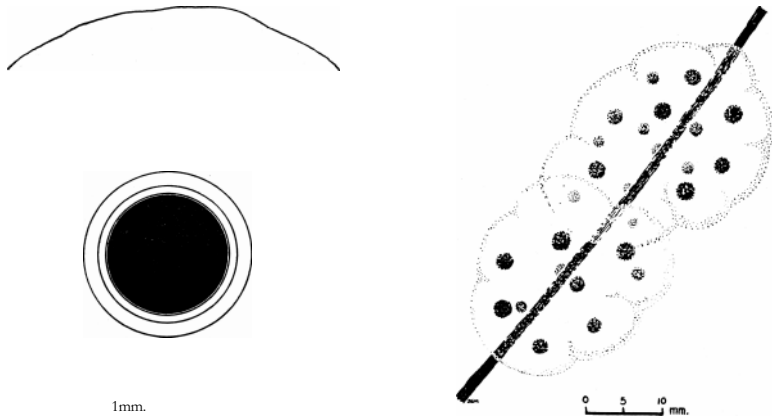


Figure 1. Left: Diagrammatic drawing of an egg of *Ambystoma talpoideum* in the style of Bishop (1941, fig. 4); showing yolk, vitelline membrane, two separate envelopes, and a portion of the "common external envelope." Right: Two egg masses of *Ambystoma talpoideum*. All eggs in neural fold stage. Drawn from life.

relatively thin, clear, and not rigid; yolk encased by the vitelline membrane plus two separate envelopes (Figure 1, left), neither envelope milky; eggs pigmented.

The eggs of this form are distinguishable from those of the other eastern species of *Ambystoma* whose eggs are known. Descriptions for these are based on Bishop (1941). *A. talpoideum* eggs differ from those of *A. opacum* in having a "common external envelope" and aquatic deposition. They differ from those of *A. tigrinum* and *A. maculatum* in having a thinner and much less rigid external envelope, much smaller egg masses, and fewer eggs per mass. They differ from those of *A. jeffersonianum* in possessing two, rather than three, separate envelopes. The eggs of *A. cingulatum* and *A. mabeei*, both of which occur in the range of *A. talpoideum*, are as yet undescribed.

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